

Climate Change The Health Connection

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“ Climate change threatens our fragile existence on this planet.”

Jim Kim, World Bank

“Climate change is affecting agriculture, water resources, human health, and ecosystems on land and in the oceans. It poses sweeping risks for economic stability and the security of nations. We can avert these risks if we take bold, decisive action now.”

Ban Ki-Moon

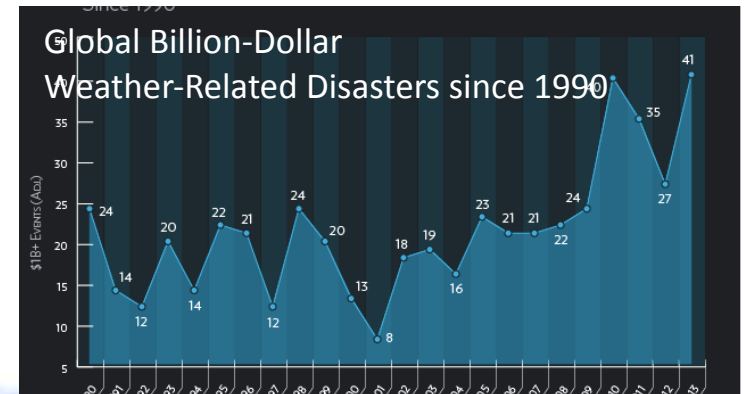
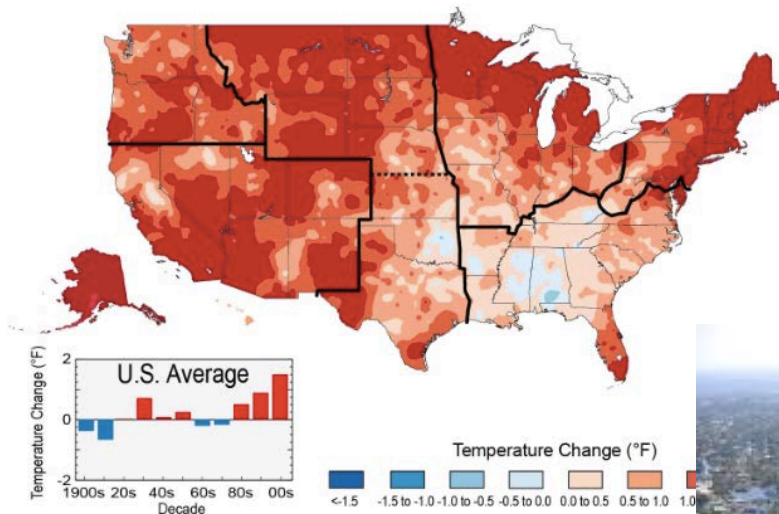
“Climate change is the biggest global health threat of the 21st century.”



LRudolph May 2014

Climate Change is a Health Emergency

- Climate change has direct impacts on health & well-being
- Climate change is a threat multiplier
 - Climate change exacerbates existing health challenges
- Climate change disproportionately impacts vulnerable populations and disadvantaged communities
- Climate change effects the systems on which human life depends – air, water, food, shelter, security.



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REPORT

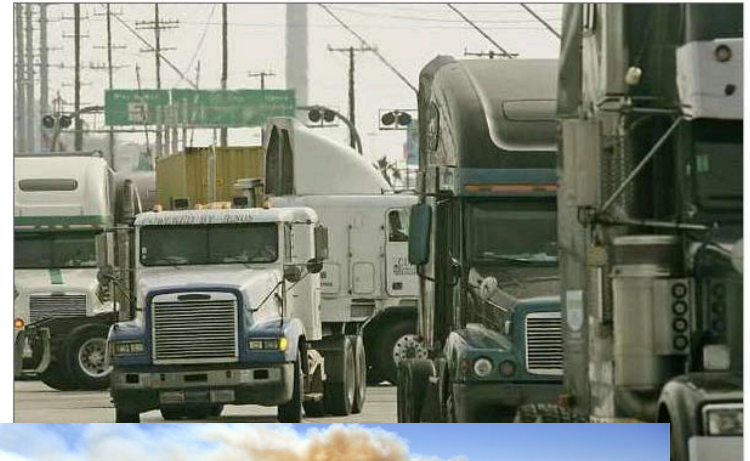
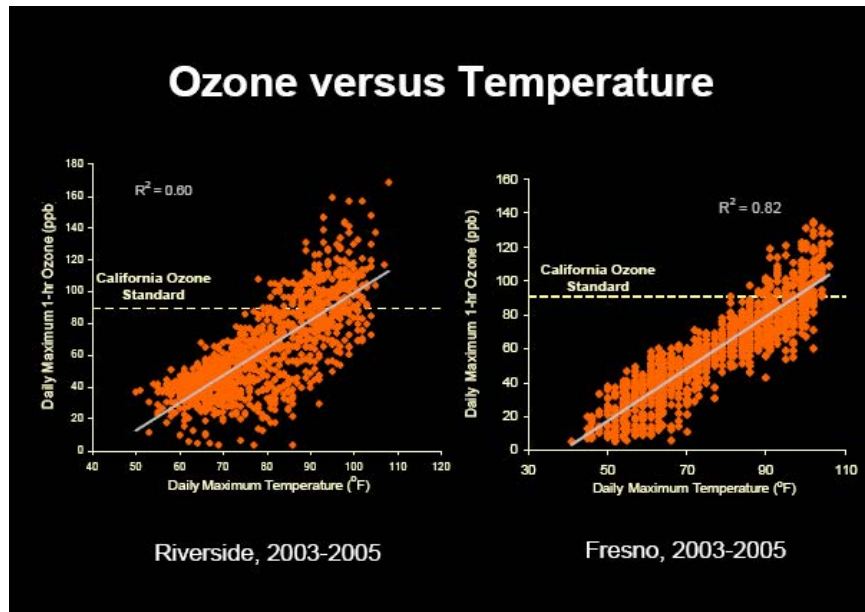
IN BRIEF

Sea-Level Rise for the Coasts of California, Oregon, and Washington: Past, Present, and Future

6" by 2030, 12" by 2050, 36" by 2100



Higher Temperatures Worsen Air Pollution



L Rudolph November 2013

Photo: Tudor Van Hampton / ENR

Climate Change & Health

- Systems that contribute most to climate change and causes of poor population health are the same
 - food/agriculture, transportation, energy, economic, etc.
- Social determinants of health (living conditions) and health status are key to climate change vulnerability & resilience
- Many climate actions have huge health co-benefits
 - Active transportation, clean energy production, urban greening, reduced meat consumption



The Climate Gap





Health Sector has a Key Role

- Public places high value on health
- Health professionals are credible and trusted
- Health professionals touch everyone
- Our language – prevention, protection, health - resonates
- Health frame engenders interest in climate action
- Climate actions & health actions aligned
- Co-benefits provide hope and immediacy and better health
- Failure to act now will mean we have far less to offer later

Bay Area Health Departments & Climate Change

- Regional Efforts:
 - Engaged in Plan Bay Area development
 - Building Health Department capacity
- Locally:
 - Involved in climate action planning
 - Develop key partnerships
 - Share health data
 - Engage local communities around climate change health co-benefits

What Does the Health Department Do in Your Community?

- Monitor the health of the population
- Protect people from health threats
- Educate about health issues
- Assure the provision of health services
- Develop, apply and enforce policies to improve health and ensure safety
- Mobilize partnerships and action for community health



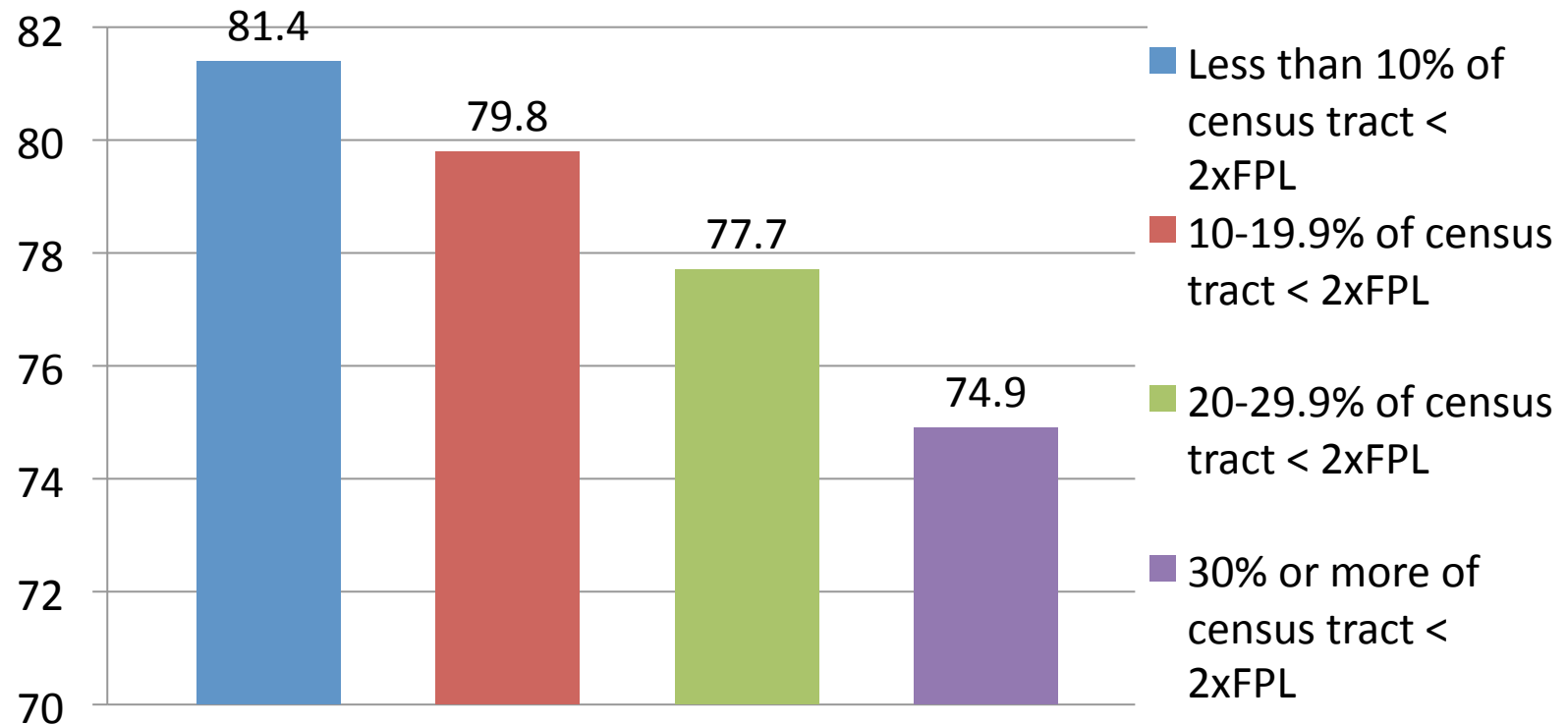
MISSION STATEMENT

To transform public health practice for the purpose of eliminating health inequities using a broad spectrum of approaches that create healthy communities.



Impacts of Disparity on Life Expectancy

Life Expectancy in Contra Costa by Income, 2000



Climate Change Quick Guides

GUIDE
01

Taking Action on Climate Change for Health

Climate Change: What's Public Health Got to Do With It?



DEFINITIONS

Greenhouse Gases (GHG)

Gases which absorb infrared radiation and trap in heat in the atmosphere. Both natural and industrial gases exhibit these greenhouse properties, like carbon dioxide and methane.



This is the first in a series of five Guides designed to help public health professionals understand.

Guide 01
Climate Change: What's Public Health Got to Do With It?

Guide 02
Health and Equity Co-Benefits of Addressing Climate Change

Guide 03
Climate Change and Health Equity

Guide 04
How Public Health can Address Climate Change

Guide 05
Getting Involved in Climate Change Action Planning

What is Climate Change?

Global warming refers to the rise in global average temperature near Earth's surface. It is one aspect of climate change, which refers to major changes in temperature, precipitation, or wind patterns that last for a long time.

Human activities are release of large amount of greenhouse gases, in the atmosphere.

Why is Climate Change a Public Health Issue?

"Climate change is threatening the very systems of food, our shelter, and with protecting and responsibility and an health impacts of climate change emissions, and to and resilient in the future now will save lives, it health inequities. Our strategies to address climate change."

How does Climate Change affect Public Health?

Climate change has a displacement due to events become more ozone levels associate distribution of infectious impacts related to rise in global food supply health problems associated with climate change. Climate change impacts such as the very your color, and those with health inequities that will address the health

GUIDE
04

Taking Action on Climate Change for Health

How Public Health can Address Climate Change



Greenhouse gas emissions from human activity are increasing the earth's temperature, resulting in extreme weather events that have serious health consequences. Vulnerable communities will likely have some of the greatest exposure to climate-related health impacts and the fewest resources to confront them. This is a public health issue and public health professionals can play a key role in addressing it.

We Can Address Climate Change. We Can Impact Health.

The following are suggested actions public health staff can take to address climate change at work. We urge you to carry out some of these and encourage your leadership or staff to implement them so that your organization is doing its part to confront this threat to public health.

Research

- Complete internal needs assessments and community vulnerability assessments to gather baseline data.
- Map geographic areas for impacts over time.
- Partner with other agencies to monitor key data changes (i.e., weather, neighborhood, and health outcomes). Include health data and maps on County or City website for use by others.
- Work with relevant agencies in your jurisdiction to examine emissions related to your health department's purchasing policy, building energy use, and staff travel.

Education and Outreach

- Conduct trainings on the health impacts of climate change for department staff, medical professionals, staff in related departments, and community-based organizations.
- Post climate change web links and information to your department's website, professional network list-serves and email tags.
- Use local data to identify opportunities to address climate change.
- Empower all staff working with the community to integrate messages into existing prevention programs about the health co-benefits of addressing climate change. For example, did you know global warming affects pollen release, which can lead to an increase in asthma and other respiratory problems?

Spotlight on Santa Clara County

As part of its CDC funded Communities Putting Prevention to Work Obesity Prevention Initiative, the Santa Clara County Public Health Department (SCCPHD) worked with jurisdictions and community organizations on environmental strategies to increase the use of active transportation and the consumption of local fresh food. Some of the strategies were: creation of a city Community Supported Agriculture (CSA) project, expansion of the acceptance of Cal Fresh EBT cards at farmers' markets, adoption of Safe Routes to School policies in school districts and cities, creation of a bilingual bike map, development of zoning standards to implement active transportation policies in a city general plan, and amendment of a city code to reduce parking requirements. SCCPHD also embarked on a new collaboration with the Office of Planning to create a Climate Element, which will be the first of its kind in the County and will help shape other elements of the General Plan.

DEFINITIONS

Health Co-benefits

The health benefits that result from strategies that are intended to address a non-health issue.

Mitigation

As related to climate change: reducing

GUIDE
02

Taking Action on Climate Change for Health

Health and Equity Co-Benefits of Addressing Climate Change



Climate change mitigation and readiness measures are being implemented in land use, transportation, water, energy, waste, agriculture, and more. Many climate action strategies also have significant beneficial effects on public health and equity, known as co-benefits, making climate change action a "win-win". Some health co-benefits of strategies to reduce greenhouse gas emissions from transportation include: decreases in obesity, cardiovascular disease, respiratory illness, osteoporosis, and

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Taking Action on Climate Change for Health

Getting Involved in Climate Change Action Planning



Public health employees have an important role to play in shaping policies and plans designed to address climate change. As experts on the health of our communities and on the needs of vulnerable communities, public health staff can ensure that these needs are addressed while we prepare to adapt to a changing climate. Policy work can include collaborating with local or regional planning agencies, writing letters or providing testimony to advocate for healthy policies, or participating on boards or commissions that address climate change issues.

Opportunities abound for raising health equity concerns in planning processes to address climate change. California's Senate Bill 375 requires each region to develop a Sustainable Communities Strategy (SCS) – an integrated transportation and land-use strategy to accommodate future population growth and reduce greenhouse gas emissions from cars and light trucks. The participation of public health staff in this recent, regional process helped create a more equitable and health-focused plan for the Bay Area.

There are also opportunities to get involved at the local level as municipalities use the SCS guidance to plan for their future housing and land use development via agencies that are accountable to local boards of supervisors, such as:

- City and county transportation commissions
- County congestion management agencies (CMAA)
- Transit agencies
- Sales tax authorities

Cities across California are also adopting voluntary plans to reduce their greenhouse gas (GHG) emissions. These include amendments to General Plans, comprehensive sustainability plans, and Climate Action Plans, among others.

In all these planning efforts, public health can educate planners, engineers, and policy-makers about the links between active transportation, housing, and health outcomes and ensure that the needs of the most vulnerable and least resourced communities are addressed. BARHII created a set of downloadable resources that can assist public health staff to participate in planning efforts: (1) *The Healthy Planning Guide* and (2) *Partners in Public Health*.

Spotlight on Alameda County

The Adapting to Rising Tides (ART) project is a collaborative planning project evaluating how Bay Area communities can improve their resilience to sea level rise and storm events. The project was initiated in 2010 by the San Francisco Bay Conservation and Development Commission (BCDC) with NOAA Coastal Services Center. This cross-jurisdictional project is focused on a Bay Area sub-region, which includes a portion of the Alameda County shoreline from Emeryville to Union City. Alameda County Public Health Department was invited to participate from the inception. Public Health staff attended planning meetings / strategy sessions and helped to ensure a public health equity focus was included. Public Health staff provided consultation to BCDC staff in scoping of the project to ensure hazardous materials, community land use, and vulnerable population issues were included and edited community land use and equity reports. In addition, Public Health staff facilitated linkages to County and community-based organization staff and provided data.

GUIDE
03

Taking Action on Climate Change for Health

Climate Change and Health Equity



DEFINITIONS

Health Inequities

The unfair and avoidable differences in health status seen within and between populations and places.

Built Environment

Environments in which people live, work, and

Climate Change Will Not Affect All Communities in the Same Way

Whether through sea level rise, droughts, or heat waves, the populations most vulnerable to climate-related health impacts are the same communities that experience health inequities, the unjust and avoidable disparities in health outcomes. These include the elderly, children, communities of color, and those unable to afford food, quality shelter, fuels for cooling and transportation, or lacking alternatives to contaminated drinking water.

Mitigation Strategies Can Support Health Equity Efforts

Reducing greenhouse gas (GHG) emissions is essential to reduce the risk of climate change. Actions to mitigate further climate change can also address health inequities. More than 60% of adults do not achieve the amount of regular physical activity. The highest rates of physical inactivity among California's low-income households and communities have the least access to safe places to exercise and play. Rates of chronic diseases such as diabetes and heart disease are also highest in these communities.

Safe change mitigation law, Senate Bill 375, requires regional housing, and other land use planning to lower greenhouse gas emissions. As a result, regional agencies are planning for built environments that are safe and walkable with jobs, affordable housing, schools, and basic services close to one another and easily accessible by public transportation, reducing the need to drive alone. Placing jobs, enriched public schools, and goods and services, such as grocery stores, with housing that all income groups provides increased opportunities for physical activity and help decrease health inequities.

100 Yr Flood Zone



Figure 1. Area projected to be inundated by 100 Year Flood, 55 inch Sea Level Rise

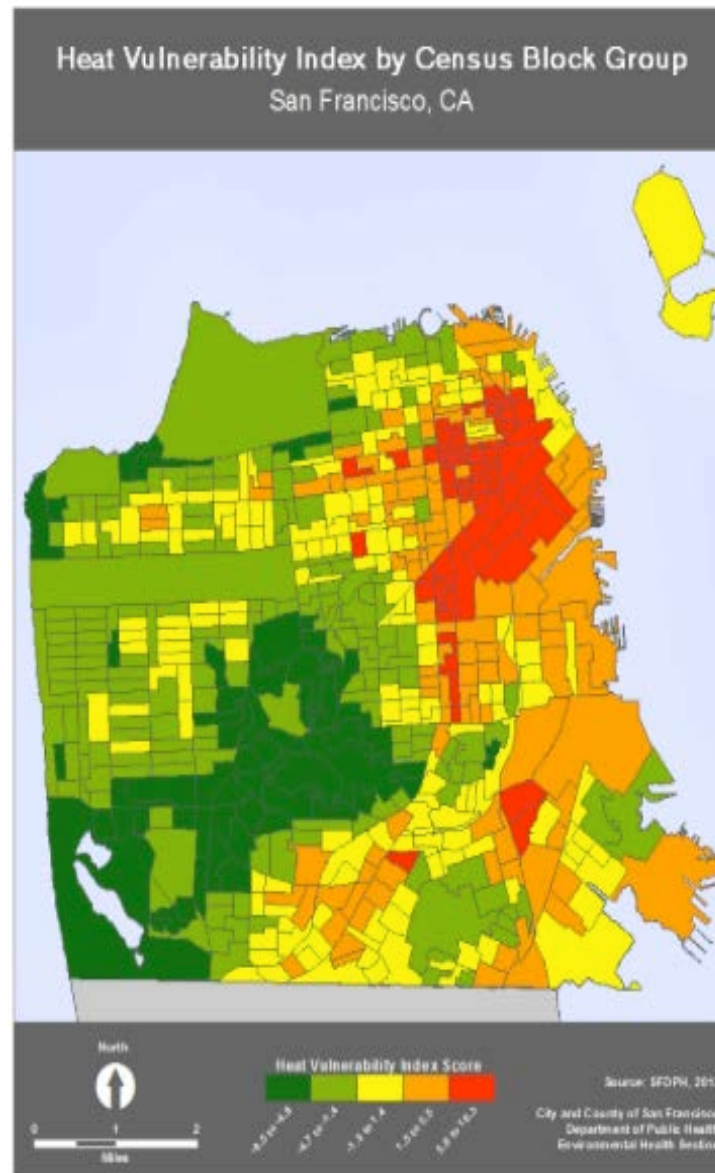
San Mateo Health System:

- Dedicated staff to work on local implementation of Plan Bay Area
- Presentations to elected officials
- Integration of health equity and climate change into Complete Streets, affordable housing, General Plans, etc.
- Integrating climate change into health programs

San Francisco Public Health Department

- Awarded federal funding to participate in the *Climate-Ready States and Cities Initiative*:
 - Convened and coordinated Disaster Response Plan with multiple departments
 - Protect people from extreme heat events and associated air quality impacts
 - Creating climate, health, and resilience indicators
- Incorporating public health and climate change considerations into work of other departments

SFDPH heat vulnerability index:



Santa Clara County Public Health

- SCC Climate Action Team and Transportation Committee (completed 2009)
- Presentation at Planning for Climate Change Workshop (2008)
- Included in PHD 2012-2015 Strategic Plan
 - Goal 3: “Establish a Departmental focus on environmental health issues related to climate change and sustainability.”

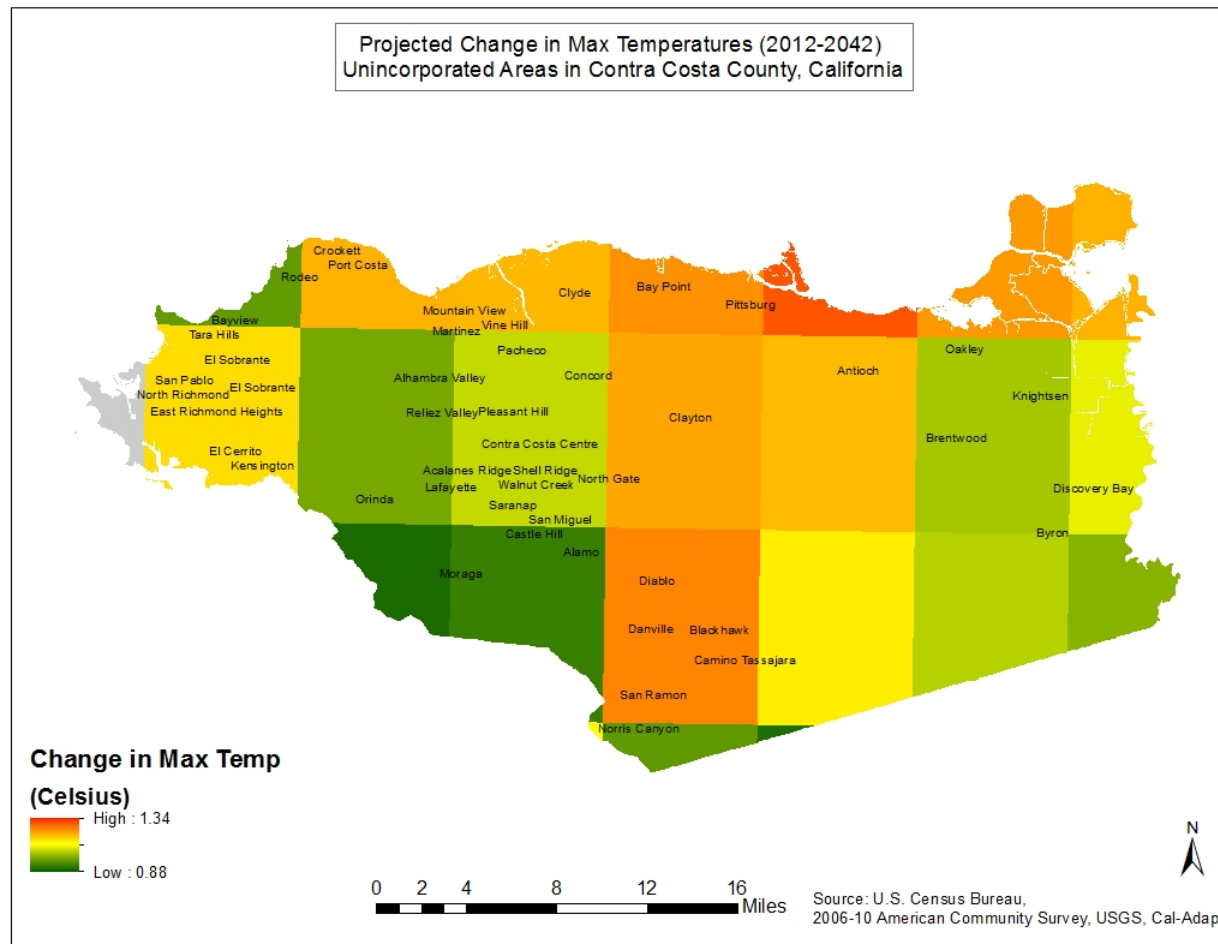
Contra Costa County Health Department

- Prepared a co-health benefits evaluation for the County's Climate Action Plan with recommendations to start addressing adaptation
 - Shows immediate benefits of mitigation measures
 - Demonstrates ability of non-health department-led efforts to reduce health disparities (HiAP approach)
 - Identified mitigation measures that are also adaptation measures
 - Provides basis for political support
 - Public receptive to health concerns

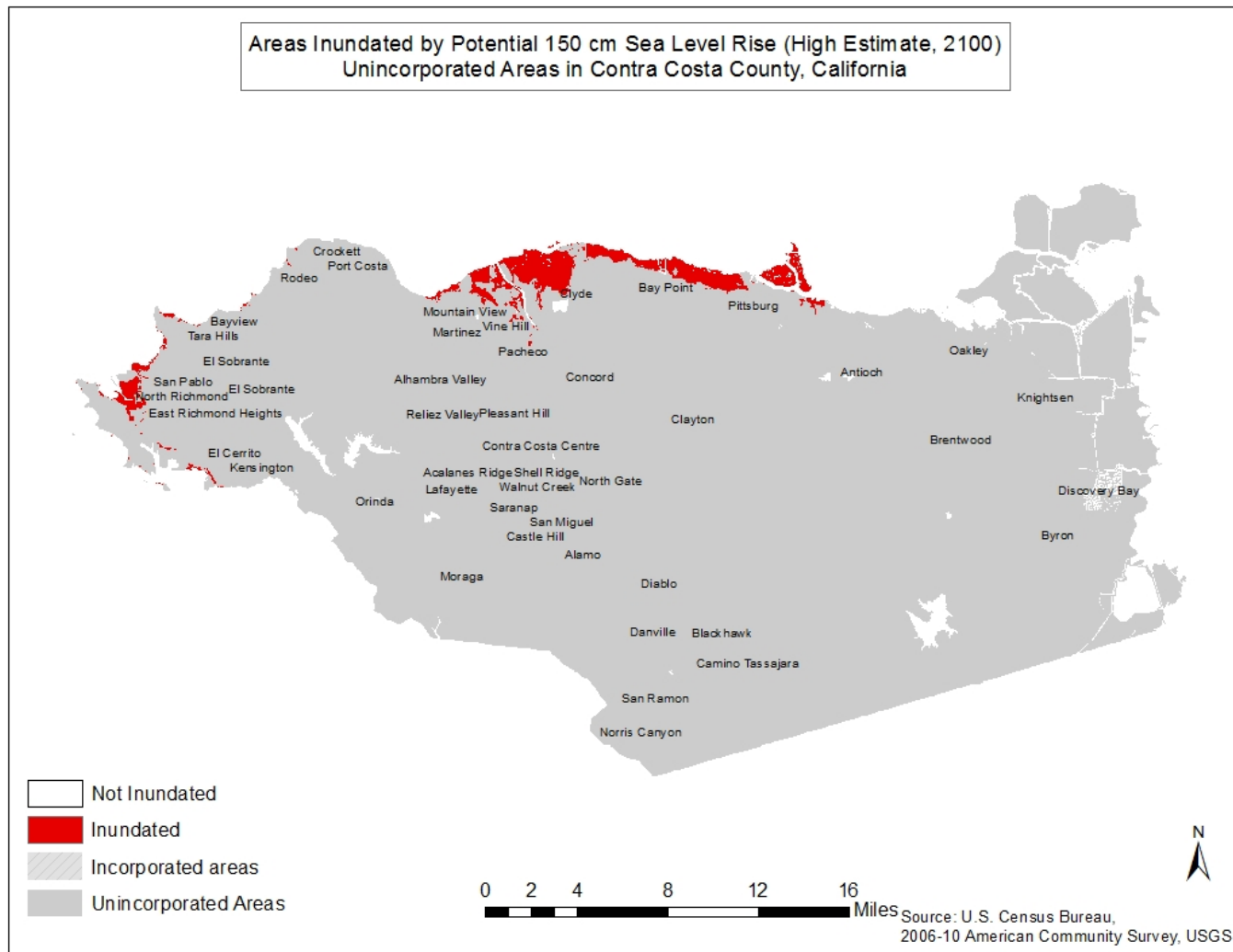
CAP Co-health Benefits (Continued)

Health Indicator	Healthy Food	Physical Activity, Walkability, Bikeability	Outdoor Air Quality	Indoor Air Quality	Improved Access	Green Space	Job Creation	Climate Risk Reduction	Health Equity
Mitigation Measures	LUT 5.6	EE 5.1	ALL	EE 1.1	LUT1.1	EE 5.1	EE 2.2 EE 6.1	EE 1.1	EE 2.1
		LUT 1.1		EE 1.2	LUT1.4	LUT 2.1		EE 1.2	EE 2.2
		LUT 1.2		EE 1.3	LUT1.5	LUT 5.5		EE 1.3	EE 2.3
		LUT 1.3		EE 2.1	LUT1.6			EE 2.1	EE 4.1
		LUT 1.4		EE 2.2	LUT 1.7			EE 2.2	EE 6.1
		LUT 1.5		EE 2.3	LUT 1.8			EE 2.3	EE 6.2
		LUT 1.6		EE 2.4	LUT 1.10			EE 2.4	RE2.3
		LUT 1.7		EE 2.5	LUT2.1			EE 2.5	LUT 1.2
		LUT 1.8		EE 2.6	LUT2.2			EE 2.6	LUT 1.10
		LUT 1.10		EE 3.1	LUT2.3			EE 3.1	LUT 3.1
		LUT 2.1		EE 3.2	LUT2.4			EE 3.2	LUT 4.1
		LUT 2.2		EE 3.3	LUT5.4			EE 3.3	LUT 4.4
		LUT 2.3		EE 3.4	LUT5.5			EE 3.4	LUT 5.4
		LUT 2.4		EE 4.1	LUT6.1			EE 4.1	W1.5
		LUT 5.5		EE 4.2	LUT6.2			EE 4.2	W 2.1
		LUT 6.1		EE 6.2	GO4.3			EE 5.1	W 2.2
		LUT 6.2						EE 5.2	GO4.5
				LUT 1.9				EE 5.3	
				LUT 3.1				EE 6.2	
				LUT 4.1				LUT 4.2	
				LUT 4.3				LUT 5.5	
				LUT 4.4				WE 1.1	
				LUT 5.1				WE 1.2	
				GO 1.1				WE 2.1	
				GO 4.4				WE 2.2	
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Climate Change Impacts: Geographically Uneven

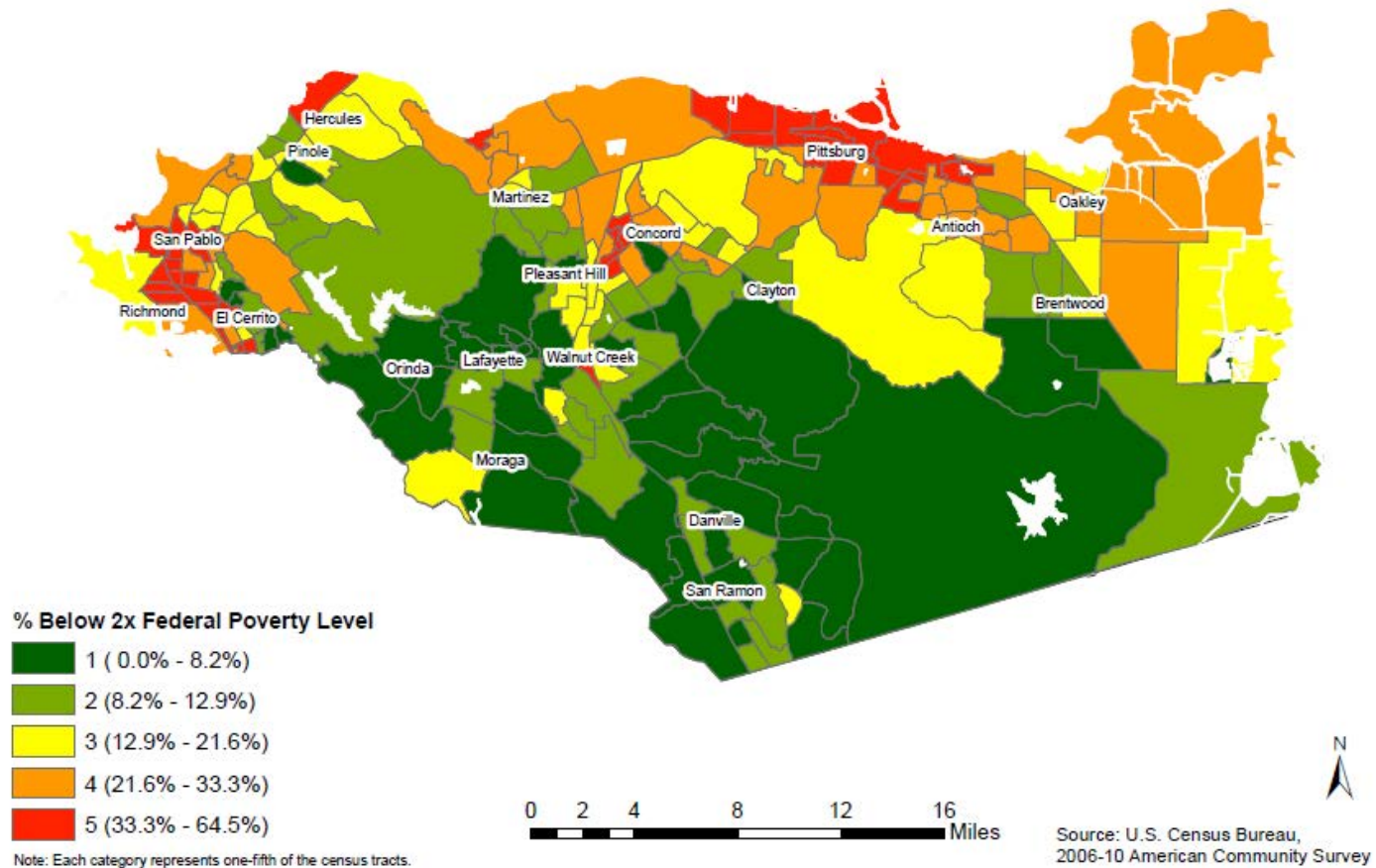


Climate Change Impacts: Geographically Uneven



Vulnerability

Percent of Individuals Living Below 2 Times the Federal Poverty Level by Census Tract, 2006-2010 (5-Year Estimates)
Contra Costa County, California



Resources:

- **Bay Area Regional Health Inequities Initiative (BARHII):** <http://www.barhii.org>
- **California EPA Climate Action Team Public Health Working Group:** <http://www.arb.ca.gov/cc/ab32publichealth/ab32publichealth.htm>
- **Public Health Institute Center for Climate Change and Health:** <http://www.phi.org/focus-areas/?program=center-for-public-health-and-climate-change>
- **National Climate Assessment Human Health Chapter:** <http://nca2014.globalchange.gov/report/sectors/human-health>

Questions? Please contact us:

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